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COURSE BROCHURE

Electrical Demand-Side Management and Load Shifting Training Course

29 March – 2 April 2027
Madrid

Electrical Demand-Side Management and Load Shifting Training Course

Ref: 3030_114943 **Date:** 29 March – 2 April 2027 **Location:** Madrid **Fees:** 6200 GBP

Electrical Demand-Side Management and Load Shifting is a 1-week training course for energy managers and utility demand planners who reshape when and how electricity is used, ending with a site demand reduction plan. Rising peak tariffs, tighter network capacity and more variable generation make the timing of consumption as important as its volume. Jupiter Prime Training delivers this course for demand-side practitioners.

Why Electrical Demand-Side Management and Load Shifting Matters Now

Three forces are pushing demand-side work up the agenda. Network operators face peak loads that grow faster than they can add feeders and transformers, so flexible consumption is cheaper than new capacity. Variable solar and wind output creates hours of surplus and hours of scarcity, rewarding customers who move load between them. Large users face capacity charges and time-of-use tariffs that turn a few peak hours into a large share of the bill. Sites that shift load with evidence cut charges and ease the grid.

Who Gains Most from Electrical Demand-Side Management and Load Shifting

- Site energy staff responsible for metering, load profiles and electricity bills
- Utility planners responsible for customer load schemes, peak forecasts and incentive design
- Facility engineers responsible for chillers, pumps, compressors and thermal storage schedules
- Commercial staff responsible for tariffs, flexibility contracts and aggregator agreements
- Operations supervisors responsible for production schedules that drive electrical demand

A site group that combines energy, engineering and production members gains most, because shifting load means changing how the plant runs.

Electrical Demand-Side Management and Load Shifting Capabilities

Participants turn interval meter readings into curtailment, shifting and contract choices that hold up under measurement.

- Analyse half-hourly load profiles to find peak drivers and flexible loads — tariff negotiations
- Calculate the value of peak shaving under capacity and time-of-use charges — investment approval
- Design load shifting schedules for thermal storage, pumping and batch processes — operations planning
- Weigh demand response contract terms, notice periods and penalties — commercial sign-off

- Specify baselines and measurement rules for verified savings — finance and auditors
- Communicate curtailment sequences to shift crews and control room staff — site operations

Key Electrical Demand-Side Management and Load Shifting Terms

- Load profile — the pattern of electrical demand over time in short metered intervals.
- Peak shaving — reducing the highest demand periods by curtailing load or running on-site generation or storage.
- Load shifting — moving consumption from expensive or congested hours to cheaper or quieter ones.
- Demand response — a paid or tariff-driven change in consumption when the grid operator or supplier signals a need.
- Load factor — the ratio of average demand to peak demand, showing how evenly a site uses its capacity.
- Savings baseline — the consumption expected without action, used to measure the effect of a demand-side measure.

Electrical Demand-Side Management and Load Shifting Day by Day

Day 1: Demand, Tariffs and Network Pressure

- Peak Demand Growth and Network Constraints — Why Flexibility Costs Less Than Capacity
- Time-of-Use, Capacity and Demand Charges — Where the Bill Is Decided
- Variable Renewable Output and Surplus Hours — New Windows for Consumption
- Utility and Customer Incentives — Aligning Scheme Design With Site Interest
- Energy Efficiency Versus Demand Flexibility — Choosing the Right Measure

Day 2: Load Profiling and Flexible Load Inventory

- Interval Meter Data Cleaning and Load Duration Curves — Peak Driver Identification
- Load Factor and Coincident Peak Analysis — Exposure to Capacity Charges
- Flexible Load Inventory by Process and System — Curtailable Versus Shiftable
- Production and Comfort Constraints — Limits on Each Flexible Load
- Submetering Gaps and Temporary Loggers — Evidence for Decisions

Day 3: Peak Shaving and Load Shifting Measures

- Chiller and Ice Thermal Storage Scheduling — Overnight Shifting Economics
- Pump, Compressor and Batch Process Rescheduling — Output Preserved Off Peak
- Battery Storage and Standby Generation Dispatch — Shaving the Top Hours
- Automatic Load Control and Building Management Setpoints — Repeatable Curtailment
- Electric Vehicle and Fleet Charging Windows — Avoiding New Site Peaks

Day 4: Contracts, Tariff Design and Measured Savings

- Demand Response Contract Terms, Notice and Penalties — Commercial Risk Allocation
- Aggregator and Direct Utility Arrangements — Route to Market Choice
- Utility Tariff and Incentive Design — Customer Uptake and Network Benefit
- Baseline Methods and Event Performance Calculation — Verified Savings Claims
- Payback, Lifecycle Cost and Carbon Effect — Building the Investment Case

Day 5: Practising the Site Demand Reduction Plan

- Load Profile Review of a Case Site — Applying Day 2 Analysis
- Selection of Shaving and Shifting Measures — Applying Day 3 Options
- Contract and Savings Measurement Choice — Applying Day 4 Terms
- Curtailment Sequence and Shift Communication — Operational Readiness
- Site Demand Reduction Plan Completion — Measures, Owners and Savings Targets

Applying Electrical Demand-Side Management and Load Shifting After the Course

- Pull twelve months of interval meter data, build a load duration curve and list the ten highest demand hours with their causes
- Run a trial curtailment of one chiller or pump group during a peak hour and measure the result against a savings baseline

Electrical Demand-Side Management and Load Shifting Questions FAQ

What is electrical demand-side management and load shifting and why does it matter now?

It is the planned control of when and how much electricity a site or customer group uses. It matters now because peak charges are rising, networks are congested and variable renewable output rewards flexible consumption.

Which roles gain most from electrical demand-side management and load shifting?

Site energy staff, utility demand planners, facility engineers and commercial staff who handle tariffs gain most.

How does electrical demand-side management and load shifting differ from an energy efficiency course?

It focuses on the timing of demand, peak charges and flexibility contracts. An energy efficiency course concentrates on reducing total consumption through better equipment and insulation, whatever the hour.

What do you bring back from electrical demand-side management and load shifting training?

You bring back a drafted demand reduction plan for one site, with analysed load profiles, selected shaving and shifting measures, contract options and a method for measuring savings.

Electrical Demand-Side Management and Load Shifting: The Way Forward

The site demand reduction plan first informs which loads are curtailed or moved during the next peak tariff season. Energy managers, facility engineers and production supervisors use it together with the supplier or network operator. After the first season, revisit the savings baseline and the flexible load inventory.